PUBLIC HEALTH AND SANITATION CODES

Subject to adoption by reference by local Boards of Health with N.J.S.A. 26:3-69.1 to 69.6

DIVIDUAL SEWAGE DISPOSAL SYSTEM CODE OF NEW JERSEY (1953)

New Jersey State Department of Health
Trenton 7, N. J.

INDIVIDUAL SEWAGE DISPOSAL SYSTEM
CODE OF NEW JERSEY (1953)

he Code entitled "Individual Sewage Disposal System Code of New Jersey .953)" set forth herein was approved December 14, 1953 by the State Depart- ıent of Health for adoption by reference by any local board of health. It ıay be adopted without alteration, or if so desired, any numbered section r paragraph may be deleted therefrom, but no substitute section or para- raph may be added as part of the Code being adopted by reference under hapter 188, P.L. 1950 (N.J.S.A. 26:3-69.1 to 69.6).

: is recommended that this Code be adopted in full.

NEW JERSEY STATE DEPARTMENT OF HEALTH
TRENTON, N. J.

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FOREWORD

The Individual Sewage Disposal System Code of New Jersey (1953) is recommended as a model code for use in municipalities or sections of municipalities not provided with a public sewer system. The provisions for the construction of individual sewage disposal systems contained herein are the same as the standards promulgated by the State Commissioner of Health in accordance with the provisions of Chapter 199, P.L. 1954. However, this code is broader in scope in that it provides additional administrative coverage including the licensing of cleaners and the operation and maintenance of such systems. Adoption of the code by local boards of health will provide uniform regulations based on modern research and experiments, together with the knowledge and experience of many experts in the field of subsurface sewage disposal and related sciences. Since there can be no guarantee that the use of this type of sewage disposal system may not at some time result in pollution of the waters of the state, or creation of a nuisance, their use should be prohibited in areas served by a public sewer or where such a sewer may be an economic possibility.

The scope of the code as recommended by the State Department of Health covers public health practice relating to the location, construction and maintenance of individual sewage disposal systems. It is designed primarily as a basic tool for the control of the installation and operation of individual sewage disposal systems. Its scope does not however, preclude its use in the control of realty subdivisions since its provisions should be a basis for approval of each sewage disposal unit in the development.

Considerable judgment is required in making a complete evaluation of all factors involving the suitability of a proposed disposal area. Although the size of a disposal area for the purpose of the code is based on the results of percolation tests, such tests should not be considered as establishing definite proof of the suitability of the soil without supporting data relating to the type and characteristics of the soil, the elevation of any impervious layer below the disposal area, ground water elevations, and subsurface and surface drainage. A site inspection is essential unless the Administrative Authority is thoroughly familiar with subsoil conditions in the area based on past experience with existing disposal systems. In some instances additional information as to soil structure as established in Section 9.3 of the code will be the only available method of determining subsoil characteristics.

Control of subdivisions should be exercised through cooperation of Municipal Governing Bodies, Planning Boards and local Boards of Health.

Many municipalities or planning boards having previously approved developments in which individual sewage disposal systems have not functioned properly, have since adopted a policy whereby the local board of health is now requested to express an opinion relative to the suitability of the tract for subsurface sewage disposal by the means proposed, before the tract is approved. No subdivision should be approved until the local board of health has determined that the individual sewage disposal systems proposed will be installed in accordance with this code and that the available ground, proposed drainage and other related factors will be such that the disposal systems can

reasonably be expected to function without the subsequent development of any health hazard. The Department believes that adoption of this policy by all municipal authorities charged with approval of subdivisions will minimize sewage disposal problems in new sections of municipalities, even though in some instances the development of unsuitable ground must be delayed until a public sewer is available. Control over individual sewage disposal systems for individual homes and single buildings, or additions thereto, can best be secured through cooperation with the municipal building department or its inspector.

The Statutes of New Jersey have facilitated the enactment of codes by reference and have thereby eliminated a large portion of the expense incurred in enacting codes by making it unnecessary to publish the full text of the code. This code may, therefore, be enacted by any local board of health by reference in the manner provided in Chapter 188, Laws of 1950 and without publication of the full text of the code. In enacting this code, the procedure set forth in Sections 26:3-66 to 69 inclusive, Revised Statutes of New Jersey should be followed, except that the provisions in Section 26:3-66 requiring the code to be published in full need not be followed if the code is enacted by reference as authorized by Chapter 188, P. L. of 1950 (N.J.S.A. 26:3-69.1 to 69.6).

The aforementioned statute requires the passage of a short enacting ordinance. In such an ordinance, the title of the code must be set forth together with a statement that a copy of said code is attached.

It is necessary to state in the ordinance that three copies of the code similarly marked have been placed on file in the office of the secretary, clerk or other similar officer of the local board of health and will remain on file there for use and examination of the public.

The enacting ordinance should also contain a section relating to penalties for violation of any section of the code. This section must be in accordance with Sections 26:3-70 to 82, inclusive, Revised Statutes of New Jersey which relate specifically to actions by local boards of health to recover penalties for violation of health ordinances or codes. The enacting ordinance should also set forth all fees to be charged and the amounts of such fees. The fees may vary in different municipalities adopting this code.

For many years, the construction and operation of individual sewage disposal systems have been based on the experience of either the person making the installation or the health authority having jurisdiction. The more generalized use of percolation tests, related data, and experiments conducted by universities and experimental stations throughout the country, has provided more definite knowledge of this subject and has been relied upon by the committee responsible for the drafting of this code. Further advancement may be made in the future, indicating the need for subsequent modification of this code. Responsible agencies should, and undoubtedly will, study developments in this field and consider recommending appropriate ammendments to this code. Amendments should not be made until careful study and tests have established the value of any new recommendations.

AN ORDINANCE PROVIDING FOR THE ADOPTION OF THE "INDIVIDUAL SEWAGE DISPOSAL SYSTEM CODE OF NEW JERSEY (1953)"

This suggested Ordinance indicating the manner in which the "Individual Sewage Disposal System Code of New Jersey (1953)" may be adopted, should be reviewed by the Attorney for the local board of health or Municipal Attorney for possible changes that he or the board may desire to make. Sections 4b and 5b may not be considered necessary by all boards of health.

AN ORDINANCE establishing a code to regulate and control the location, construction, use, maintenance, and method of emptying or cleaning individual sewage disposal systems, or other places used for the reception or storage of human excrement, the issuance of (licenses) (permits) and providing penalties for the violation thereof.

BE IT ORDAINED BY THE BOARD OF HEALTH OF.....

COUNTY OF ....., STATE OF NEW JERSEY:

SECTION 1. A Code regulating the location, construction, use, maintenance, and method of emptying or cleaning individual sewage disposal systems, the issuance of (licenses) (permits) to locate, construct, empty or clean said systems, and fixing penalties for the violation thereof is hereby adopted pursuant to Chapter 188, P.L. 1950 (N.J.S.A. 26:3-69.1 to 69.6). A copy of said Code is annexed hereto and made a part hereof without inclusion of the text thereof herein.

SECTION 2. The said Code established and adopted by this Ordinance is described and commonly known as the Individual Sewage Disposal System Code of New Jersey (1953).

SECTION 3. Three copies of the said Individual Sewage Disposal System Code of New Jersey (1953) have been placed on file in the office of the secretary, clerk or other similar officer of this Board of Health upon the introduction of this Ordinance and will remain on file in said office for the use and examination of the public.

SECTION 4 (a). No person shall locate, construct or alter any individual sewage disposal system until a (license) (permit) for the location, construction or alteration of said sewage disposal system shall have been issued by the Board of Health.

(b). The Board of Health may issue a (license) (permit) if an application for the same is accompanied by a certificate made by an engineer licensed to practice professional engineering in New Jersey stating that the design of the individual sewage disposal system as proposed is in compliance with the Code.

SECTION 5 (a). New individual disposal systems shall not be placed in operation, nor shall new dwellings or buildings or additions thereto be sold or occupied, which must rely on such a system for sewage disposal, until the Board of Health shall have issued a certificate indicating that said disposal system has been located and constructed in compliance with the terms of the (license) (permit) issued and the requirements of the aforesaid Code. Issuance of such certificate shall not be required for alteration to an existing individual sewage disposal system.

(b). The Board of Health may issue such a certificate if an engineer licensed to practice professional engineering in New Jersey submits a statement in writing signed by him to the Board of Health that the said disposal system has been located and constructed in accordance with the terms of the (license) (permit) issued and the requirements of the aforesaid Code.

SECTION 6. (a). Persons shall not engage in the business of emptying or cleaning septic tanks, cesspools, privies or any place used for the reception or storage of human excrement who do not hold a license to engage in such business issued by the Board of Health. Such licenses shall be valid for a period of one year from the date of issuance but may be renewed by the Board of Health. Said license may be revoked for failure of the licensee to comply with the provisions of the Code or any rule or ordinance of the Board of Health.

(b). The contents of any septic tank, cesspool, privy or other receptacle containing human excrement shall not be removed until a (license) (permit) for such removal has been obtained from the Board of Health.

SECTION 7. In case any (license) (permit) or certification required by this ordinance is denied by the Board of Health, a hearing shall be held thereon before the Board within fifteen (15) days after request therefor is made by the applicant and upon such hearing the Board of Health shall affirm, alter or rescind its previous determination and take action accordingly within fifteen (15) days after the date of such hearing.

SECTION 8. The Board of Health may order all further work in and about any individual sewage disposal system, which is being erected or installed in violation of the Code, to be stopped forthwith, except such work as shall be necessary to remedy such violation, and, thereafter, the work continued without any violation of any of the provisions of the Code, and after issuance of any such order and the service of a copy thereof upon any person connected with or working in and about the erection or installation of any such disposal system, or any part thereof, no further work shall be done thereon except as aforesaid.

SECTION 9. The following fees and charges are herewith established:

(a). For the filing of an application and plans for a (license) (permit) to locate and construct an individual sewage disposal system ..... dollars.

(b). For the filing of an application and plans for a (license) (permit) to alter an existing individual sewage disposal system ..... dollars.

(c). For the issuance of a (license) (permit) to locate and construct or alter an individual sewage disposal system (not more than $5.00, R.S. 26:3-31 f & g) ..... dollars.

(d) For each reinspection of an individual sewage disposal system, or part thereof caused by the failure of the (licensee) (permitee) to locate and construct or alter the same in accordance with the terms of the (license) (permit) issued or the terms of the aforesaid Code, an inspection fee of ..... dollars shall be charged.

(e). For the issuance or renewal of a license to a person or corporation engaged in the business of cleaning or emptying receptacles for the reception and storage of human excrement or other putrescible matter (not more than $20.00, R.S. 26:3-31 i) ..... dollars for each vehicle or conveyance.

(f). For the issuance of a (license) (permit) to clean or empty any receptacle used for the reception or storage of human excrement or other putrescible matter (not more than $5.00, R.S. 26:3-31 f & g) ..... dollars.

SECTION 10 (a). Any person or persons, firm or corporation violating any of the provisions of or any order promulgated under this Ordinance or the Individual Sewage Disposal System Code of New Jersey (1953) made a part hereof shall, upon conviction thereof, pay a penalty of not less than two dollars nor more than one hundred dollars for each violation.

(b). Each day a particular violation continues shall constitute a separate offense.

SECTION 11. All ordinances, codes or parts of same inconsistent with any of the provisions of this Ordinance and the Code established hereunder are hereby repealed to the extent of such inconsistency.

SECTION 12. In the event that any section, sentence or clause of this Ordinance or Code shall be declared unconstitutional by a court of competent jurisdiction such declaration shall not in any manner prejudice the enforcement of the remaining provisions.

SECTION 13. This Ordinance and the Code herein established shall take effect 30 days after the first publication of the Ordinance in accordance with the provisions of R.S. 26:3-69

NDIVIDUAL SEWAGE DISPOSAL SYSTEM CODE OF NEW JERSEY (1953) APPROVED BY THE NEW JERSEY STATE DEPARTMENT OF HEALTH, DECEMBER 14, 1953

SECTION 1

DEFINITIONS

1.1 The words, terms or phrases listed below for the purposes of this Code and rdinance shall be defined and interpreted as follows:

Administrative Authority. An Administrative Authority is the board of health.

Alter. Alter shall mean and include replacing or repairing any portion of an existing idividual sewage disposal system.

Authorized Agent. An authorized agent is a licensed health officer, sanitary inspector, lumbing inspector, or any other properly qualified and licensed person who is delegated function within specified limits as the agent of the Administrative Authority.

Approved. Approved shall mean accepted or acceptable under applicable specifications ated or cited in this Code, or accepted as suitable for the proposed use under procedures id powers of administration delegated in this Code.

Building Sewer. The building (house) sewer is the pipe extending from the outer all of the building, or as defined in the plumbing code, to the septic tank or approved place disposal other than a public sewer and the lines to all parts of the system except those assified as distribution lines.

Certificate of Compliance. A certificate of compliance is a written statement, certifying iat the individual sewage disposal system has been located and constructed in accordance ith the provisions of this Code and the terms of the permit or license issued for such istallation.

Cesspool. A cesspool is a covered pit with open-jointed lining into which raw sewage discharged the liquid portion of which is disposed of by seepage or leaching into the irrounding porous soil, the solids or sludge being retained in the pit.

Commercial Standards 177-51. Commercial Standards 177-51 refers to the Commercial tandards for Bituminous-Coated Metal Septic Tanks (Single Compartment Residential), voluntary standard of the trade published by the United States Department of Commerce i cooperation with the National Bureau of Standards.

Construct. Construct shall mean and include building or installing a new individual ewage disposal system or enlarging an existing individual sewage disposal system.

Disposal Area. The disposal area is considered as the entire area used for underground ispersion of the liquid portion of sewage. It may consist of a seepage pit or a disposal eld (see definition) or a combination thereof.

Disposal Bed. A disposal bed consists of a shallow area from which the entire earth ontents have been removed, and the excavation partially filled with a satisfactory filtering iaterial in which distribution lines have been laid and the entire area covered with top oil and a suitable vegetative growth.

Disposal Field. A disposal field is used for dispersion of the liquid portion of sewage nto the ground as near the surface as possible. A disposal field may consist of disposal enches, a disposal bed or a combination thereof.

Disposal Trench. Disposal trenches are shallow ditches with vertical sides and flat

bottoms partially filled with a satisfactory filtering material in which a single distribution line has been laid, covered with top soil and a suitable vegetative cover.

Distribution Box. A distribution box is a water-tight structure which receives sewage from a septic tank and distributes such sewage in equal portions to two or more pipe lines leading to the disposal area.

Distribution Lines. Distribution lines consist of a series of open-jointed or perforated pipe used for the dispersion of sewage into disposal trenches or disposal beds.

Dosing Tank. A dosing tank is a water-tight receptacle located between a septic tank and a disposal area equipped with an automatic siphon device designed to discharge sewage intermittently into the distribution lines in amounts proportioned to the capacity of such lines and to provide adequate rest periods between such discharges.

Dry Well. A dry well is a covered pit with open jointed lining through which drainage from roofs, basement floors or area-ways may seep or leach into the surrounding soil.

Expansion Attic. An expansion attic is that part of a house left unfinished but designed to be finished as a bedroom or bedrooms by subsequent improvement and accessible by permanent stairways so designed so that stairways may be installed.

g/d. g/d is the abbreviated form for gallons per day (24 hours).

Grade. Grade is the slope or fall of a pipe line or the ground surface. It may be expressed as fall or drop per foot, per 100 feet, or in percent.

Grease Trap. A grease trap is a device in which the grease present in sewage is intercepted, congealed by cooling, and from which it may be skimmed from the surface of the liquid waste for disposal.

House Sewer. See Building Sewer.

Individual Sewage Disposal System. An individual sewage disposal system is a sub-surface sewage disposal system designed and constructed to treat sewage in a manner that will retain most of the settleable solids in a water-tight tank and to discharge the liquid portion to an adequate disposal area.

Industrial Waste. Industrial wastes are liquid wastes free of fecal matter resulting from the processes employed in industrial establishments.

Invert. An invert is the floor, bottom or lowest portion of the internal cross section of a closed conduit, used in this Code with reference to the pipes or fittings conveying sewage.

Locate. Locate shall mean designating the site or place of an individual sewage disposal system.

Main Vent. See Vent Stack.

Multiple Compartment Tanks. Multiple compartment tanks are septic tanks containing more than one settling compartment or chamber in series.

Percolating Area. The percolating area is that portion of soil utilized in a disposal area as the effective disposal media for sewage.

Person. Person includes corporations, companies, associations, societies, firms, partnerships and joint stock companies as well as individuals.

Professional Engineer. A person licensed to practice professional enginering in this State.

Realty Improvement. Any proposed new residence or other building the useful occupancy of which will require the installation or erection of a water supply system or sewerage facilities, other than one which is to be served by an approved water supply and an approved sewerage system.

Sanitary Sewage. Sanitary sewage is any liquid waste containing animal or vegetable ıatter in suspension or solution or the water-carried wastes resulting from the discharge of ıater closets, laundry tubs, washing machines, sinks, dishwashers or any other source of ıater carried waste of human origin or containing putrescible material.

Sanitary Sewer. A sanitary sewer is a pipe which carries sewage and to which storm, ırface and ground waters are not intentionally admitted.

Scum. Scum is a mass of sewage solids floating at the surface of sewage and bouyed up y entrained gas, grease or other substances.

Seepage Pit. A seepage pit is a covered pit with open jointed lining through which ɛptic tank effluent or laundry waste may seep or leach into the surrounding soil.

Septic Tank. A septic tank is a water-tight receptacle which receives the discharge f sewage from a building sewer or part thereof, and is designed and constructed so as to ermit settling of settleable solids from the liquid, digestion of the organic matter by etention, and discharge of the liquid portion into a disposal area.

Siphon. A siphon is a hydraulically operated device designed to rapidly discharge the ntire contents of a dosing tank between predetermined hydraulic levels.

Trap. A trap is a fitting or device so designed and constructed as to provide, when roperly vented, a liquid seal which will prevent the back passage of air without materially ffecting the flow of sewage or waste water through it.

Vent Stack. A vent stack is a vertical vent pipe installed within a building for the urpose of providing circulation of air to and from any part of a building plumbing system.

Water Course. A water course is any stream, body of water drained by a stream, dry itch, or any depression that will permit drainage into any waters of the state.

Waters of the State. The waters of the state include the ocean and its estuaries, all ɔrings, streams and bodies of surface or ground water whether natural or artificial.

SECTION 2

GENERAL REQUIREMENTS

2.1 *Design.*—The design of an individual sewage disposal system shall take into consideration location with respect to wells or other sources of water supply, topography, existing ıdividual sewage disposal systems on adjacent properties, water table, soil characteristics, vailable area, expected volume of sewage and shall comply with these and other provisions f this Code regarding design.

2.2 *Volume of Sanitary Sewage.*—Each unit of the disposal system shall be designed ɔ adequately treat the estimated volume of sanitary sewage to be discharged from the ıremises to be served. The volume of sewage flow shall be based on the estimated contribuɔry population and the resultant expected daily quantities of sewage determined from the ollowing table:

Source	*Gallons per person per day*
1. Cottages, seasonal occupancy	50
2. Single family dwellings	75
3. Multiple family dwellings (apartments)	50-75
4. Rooming houses	40
5. Boarding houses*	50
a. For each non-resident boarder	10
6. Hotels*	
a. Without private baths	50
b. With private baths	60
7. Motels and tourist cabins	25
8. Trailer camps*	
a. With central sanitary facilities	35
b. With individual sanitary facilities	50
9. Restaurants	
a. Sanitary waste only, per patron	4.5
b. Kitchen waste only, per patron	5.0-7.5
10. Camps*	
a. Barracks type	50
b. Cottage type	40
c. Day camps (no meals served)	15
11. Day schools	
a. No cafeteria or showers	5
b. With cafeteria and no showers	15
c. With cafeteria and showers	20
12. Boarding schools*	75
13. Day workers: Office, Industrial, etc.	15
14. Hospitals (depending on type)	150-250
15. Institutions other than hospitals	75-125
16. Picnic Grounds	
a. Toilet only	5
b. Toilet and showers	10
17. Swimming pools and bath houses	10
18. Club houses*	
a. With resident members	60
b. For each non-resident member	25
19. Self-service laundries	50 gals./wash

*Includes kitchen waste @ 10 gallons/person/day. If laundry wastes are anticipated est mated flows shall be increased by 35 to 50 gallons per wash.

When more than one use will occur, the multiple usage shall be considered in determ ning total flow. Small industrial plants maintaining a cafeteria and/or showers; club hous or hotels maintaining swimming pools and/or laundries are typical examples of multiple use

Usages other than those listed above shall be considered in relation to established flov from known or similar installations.

2.3 *Type of System.*—The type of system to be installed shall be determined on tl basis of location, topography, soil permeability, and ground water elevation. The syste shall consist of a septic tank discharging its effluent to a suitable subsurface disposal ar as hereafter described, except as it may be modified in accordance with Section 2.6.

2.4 *Type of Wastes*—The system shall be designed to receive all sanitary sewage from ıe building served unless otherwise approved by the Administrative Authority. Laundry vastes may be discharged into a seepage pit if approved by the Administrative Authority. Drainage from basement floors, footings or roofs shall not enter the individual sewage disosal system but may be discharged to a suitably located dry well. Industrial wastes shall ot be discharged into individual sewage disposal systems without special approval of the Administrative Authority.

2.5 *Limitations.*—When the volume of flow and other factors controlling the disposal rea for a single installation are such that the total length of distribution lines will be reater than 2400 feet or the total percolating area of seepage pits will be more than 3600 quare feet, a sewage treatment plant approved by the State Department of Health pursuant o law shall be provided.

2.6 *Alternate Design.*—Where a system as prescribed in Section 2.3 cannot be expected o function satisfactorily, and where an alternate design, meeting the conditions established n Section 3.2 and substantially complying with provisions of this Code is proposed, such deign may be approved by the Administrative Authority.

2.7 *Drainage.*—The individual disposal system shall be located in an area where no urface or subsurface (ground) water will accumulate. Provisions shall be made to minimize he flow of surface water over the area.

2.8 *Grading.*—Individual sewage disposal systems shall not be installed until all rough grading of the premises adjacent to the site of the sewage disposal installation has been ompleted in a manner that will permit proper functioning of the sewage disposal system o be installed.

2.9 *Backfilling.*—Backfill shall be earth similar to that found at the site and free of arge stones, broken masonry, stumps or other waste construction material. Machinery used or the purpose of backfilling shall not be allowed within five feet of any part of the ndividual sewage disposal system.

2.10 *Individual Service.*—The use of an individual sewage disposal system by more than ne property, dwelling, commercial unit or other premises is prohibited unless such property, lwelling, commercial unit or other premises is constructed, designed and located in such manner that it is most impractical or impossible to construct separate individual sewage disposal systems for the same pursuant to the provisions of this Code. Permission may be granted by the Administrative Authority for joint use of an individual sewage disposal system only if these facts are established to its satisfaction and assurance is given that only ne person will be responsible for the maintenance and operation of said system.

2.11 *Discharge of Effluents.*—Individual sewage disposal systems shall not be designed, constructed or located in a manner that will permit the discharge of an effluent onto the surface of the ground or into any watercourse.

2.12 *Sanitary Sewer.*—Individual sewage disposal systems or other means of private sewage disposal shall not be approved where a sanitary sewer is available within 100 feet of a building.

2.13 *Wells.*—Sanitary sewage or the effluent from any individual sewage disposal system shall not be discharged into any abandoned well or any well constructed for the purpose of sewage disposal.

2.14 *Maintenance.*—Septic tanks, cesspools, seepage pits and disposal fields shall be maintained in a manner that will not create any nuisance or source of foulness, nor become a source of pollution to any of the waters of the state.

2.15 *Cleaning.*—Cleaning of any part of any individual sewage disposal system shall be performed in accordance with the provisions of Section 16.

SECTION 3

LOCATION

3.1 *General.*—Location and installation of each individual sewage disposal system and every part thereof shall be such that with reasonable maintenance it will function in a satisfactory manner and will not create a nuisance or source of foulness nor discharge into any of the waters of the state. In determining a suitable location for the system, consideration shall be given to the size and shape of the lot, slope, natural and adjusted drainage, depth to ground water, potential pollution of existing and future water supplies and the possible expansion of the system.

3.2 *Distances.*—The minimum distance for location of the various component parts of the disposal system shall comply with the following table:

COMPONENT	MINIMUM DISTANCE						
	Well or Suction Line (a)	Water Supply Line (Pressure)	Stream (a)	Dwelling	Property Line	Disposal Field	Seepage Pits
	Feet	Feet	Feet	Feet	Feet	Feet	Feet
Building sewer ...	50	10	(b)	..	..	..	..
Septic tank	50	10	25	10	10	..	..
Distribution box ..	50	10	25	10	10	..	..
Disposal field	100(c)	10	25	15	10	..	..
Seepage pit	100(c)	10	25	20	10	..	20
Dry well	50	..	..	10	5	20	20
Cesspool (d)	150	25	50	20	15	15	15

(a) Where coarse soil formations are encountered, the distance from any water supply or stream may be increased by the Administrative Authority.

(b) 10 feet if constructed of cast iron with tight joints or 50 feet if vitrified tile or similar type piping is used.

(c) This distance may be reduced to a minimum of 50 feet when the well is provided with an outside water-tight casing to a depth of 50 feet or more, or said casing extends to and is sealed into an impervious stratum separating the water-bearing stratum from the layer of soil used for sewage disposal.

(d) To be used only with special approval of the Administrative Authority.

3.3 *Soil.*—The disposal area shall be located and constructed in soil having adequate permeability, as determined in accordance with the provisions of Section 9. The soil shall also provide proper support for each component of the system. In cases where fill becomes necessary, such fill shall be compacted or allowed to settle to the satisfaction of the Administrative Authority.

3.4 *Flooding.*—No part of the sewage disposal system shall be constructed in ground subject to surface flooding or where ground water may interfere with satisfactory percolation of sewage.

3.5 *Area Reserved for Sewage Disposal.*—The area to be used for sewage disposal shall e selected and maintained so that it is free from encroachments by driveways, accessory uildings, additions to the main building, and trees or shrubbery whose roots may cause ogging of any part of the system.

3.6 *Drainage.*—The ground surface over and adjacent to disposal areas shall have sufcient slope to prevent the accumulation of surface or subsurface water.

SECTION 4

BUILDING SEWER

4.1 *Size.*—The building sewer shall be of such size to serve the connected fixtures as quired by the Administrative Authority's plumbing code but in no case less than four inches.

4.2 *Material.*—Building sewers shall be constructed of cast iron, vitrified tile, cement, sbestos cement, bituminous pressed fiber or of a type approved in writing by the Administrative Authority, provided cast iron shall be used where the building sewer will be located nder driveways.

4.3 *Joints.*—All pipe joints in the building sewer or any other part of the system not art of the disposal area shall be made water-tight and protected against damage by roots.

4.4 *Foundations.*—The building sewer shall be laid on a firm foundation satisfactory to ıe Administrative Authority.

4.5 *Grade.*—The building sewer shall have a minimum grade of not less than ¼ inch er foot unless otherwise authorized by the Administrative Authority.

4.6 *Alignment and Grade.*—The building sewer shall be laid in a continuous grade and s nearly as possible in a straight line. Drop manholes may be installed if found necessary. Horizontal bends, where required, shall not be greater than 45°.

4.7 *Ventilation.*—The building sewer shall be ventilated through the vent stack or main ent, and no trap shall be installed in the building sewer.

4.8 *Depth.*—The depth of the invert of the building sewer shall be determined by the levation of the disposal area.

4.9 *Grease Traps.*—The use of grease traps shall be limited to installations from which ırge quantities of grease can be expected to be discharged and there is reasonable assurance ıat they will be cleaned frequently. They shall be installed in a separate line serving that art of the plumbing system into which the grease will be discharged. Traps so installed hall be located and constructed in a manner that will reduce the temperature of sewage to ermit congealing or separation of grease. They shall also be located and constructed in manner that will permit easy access for cleaning.

SECTION 5

SEPTIC TANKS

5.1 *Capacities.*—Septic tanks shall have the following minimum capacities:

(a) When serving single family dwelling units having up to six bedroom shall have capacities as shown below. Expansion attics shall be considered as add bedrooms.

NUMBER OF BEDROOMS	Liquid Capacity of Tank	RECOMMENDED INSIDE DIMENSIONS			
		Length	Width	Liquid Depth	To Dep
	Gallons	Ft. In.	Ft. In.	Ft. In.	Ft.
1	500	6-0	3-0	4-0	5-
2	600	7-0	3-0	4-0	5-
3	750	7-6	3-6	4-0	5-
4	850	7-9	3-9	4-0	5-
5	900	8-0	3-6	4-4	5-
6	1,000	8-0	4-0	4-4	5-

(b) When serving installations other than single family dwellings, capacities be 1 1/2 times (150%) the daily flow determined from Section 2.2 or 1 1/2 times (1 the estimated flow approved by the Administrative Authority up to flows of 2,000 g/ in no case shall the capacity be less than 500 gallons. Septic tank volumes for flows be 2,000 g/d and 6,000 g/d may be equal to 2,250 + .375 Q where Q is equal to the in gallons per day. Capacity of septic tanks for flows over 6,000 g/d shall be at leas (75%) of the daily flow.

5.2 *Garbage Disposal.*—Where domestic garbage grinder units are installed or templated, the liquid capacity of the septic tank, exclusive of air space, shall be at lea percent greater than the requirements of Section 5.1.

5.3 *Multiple Compartments.*—Where multiple compartment tanks are used, the fo ing shall be required:

(a) The total capacity of multiple compartment tanks shall not be less than gallons. The first compartment shall have a liquid capacity of two-thirds (2/3) the req total tank capacity as determined from Section 5.1.

(b) Not more than two compartments shall be provided in tanks having l capacities of from 750 gallons to 1,200 gallons.

(c) Tanks having liquid capacities of over 1,200 gallons may be provided more than two compartments.

5.4 *Construction.* (a) Septic tanks shall be water-tight and constructed of sound durable materials not subject to excessive corrosion, decay, frost damage or to crackin buckling due to settlement or backfilling. Covers shall be designed and constructed s not to be damaged by any load which may be placed on them. Septic tanks constructe metal or any other material which may be floated or shifted by water or ground cave-in be filled with water immediately after being set in their proper position.

(b) Poured-in-place concrete tanks shall not be less than six inches in thickne

(c) The base of sectional prefabricated or block constructed tanks shall be cast in one piece and of sufficient size to extend beyond the outer side of the side and end walls of the tank. Such tanks shall not be placed or constructed until 48 hours after the base has been poured. The inside and outside walls of cinder or concrete block tanks shall be waterproofed in a manner acceptable to the Administrative Authority.

5.5 *Foundations.*—Septic tanks shall be constructed on a foundation satisfactory to the Administrative Authority.

5.6 *Materials.*—Septic tanks may be constructed of the following:

(a) Poured-in-place concrete.
(b) Precast reinforced concrete.
(c) Concrete block or equal.
(d) Cinder block or equal.
(e) Prefabricated metal.
(f) Material approved by the Administrative Authority.

Prefabricated metal tanks shall conform to the Commercial Standards 177-51 of the U. S. Department of Commerce.

5.7 *Ventilation.*—Ventilation shall be provided through the building sewer as required in Section 4.7.

5.8 *Length.*—Rectangular tanks shall have an inside length of at least twice the inside width. The inside length shall not be less than six feet. All flow shall be directed lengthwise.

5.9 *Diameter of Circular Tanks.*—Circular tanks shall have an inside diameter of not less than 52 inches.

5.10 *Inlets and Outlets.*—Inlet and outlet connections of each tank or compartment shall be arranged so as to obtain effective retention of scum and sludge. Inlet baffles are not required but when provided shall be a pipe tee, not less than four inches in diameter with the bottom opening extending at least six inches below the surface of the liquid, or as required by Commercial Standard 177-51 for metal tanks. The invert elevation of the inlet shall be not less than one inch above the invert elevation of the tank outlet or the outlet of the first compartment. The inverts of the inlets and outlets of subsequent compartments may be at the same level.

Outlet connections of the tank and of each compartment thereof, shall be provided with a tee not less than four inches in diameter or a durable baffle equivalent in size. They shall be permanently fastened in place with the bottom opening extending at least twelve inches below the liquid level or as required by Commercial Standard 177-51 for metal tanks. Inlet tees or baffles where used and outlet tees or baffles shall extend to not less than one inch below the inside top of the tank. The top of all tees or baffles shall be extended to comply with Section 5.12 and in no case shall be less than eight inches above the invert of the outlet.

5.11 *Multiple Outlets.*—Where the inside width of the septic tank exceeds five feet, multiple outlets constructed in the same manner as provided in Section 5.10 shall be installed as follows:

Inside Width of Tank	*Number of Outlets*
5 to 7 feet	2
8 to 12 feet	3

Any change in the type of outlets shall be as approved by the Administrative Authority.

5.12 *Scum Storage.*—The space between the liquid surface and the top of the scum retaining device on the outlet shall be not less than 15% of the total required liquid capacity.

5.13 *Access Openings.*—Each compartment shall be provided with an access opening. In single compartment tanks, the access opening shall be located over the inlet. In multiple compartment tanks, access openings shall be located over each inlet and outlet. Access openings shall be at least 16 inches square or 16 inches in diameter and shall be constructed in a manner that will prevent the entrance of surface water. When the top of the septic tank is more than 18 inches below finished grade the access openings shall be extended to between 18 inches and 12 inches below finished grade.

5.14 *Backfill.*—Backfill around septic tanks shall be made in thin layers thoroughly tamped in a manner that will not produce undue strain on the tank. Settlement of backfill may be done with the use of water, provided the material is thoroughly wetted from the bottom upwards and the tank is first filled with water to prevent floating.

SECTION 6

DOSING TANKS

6.1 *General.*—Dosing tanks shall be provided where there are over 600 lineal feet of distribution lines.

6.2 *Capacity.*—Dosing tanks shall have sufficient capacity to distribute sewage equally to all parts of the distribution system at 2 to 3 hour intervals. Sufficient capacity shall be considered as equivalent to 75% of the interior volume of the distribution lines. Where 4 inch distribution lines are used, a capacity of 1/2 gallon per lineal feet shall be provided.

6.3 *Siphons.*—Siphons shall be automatic and shall be of an alternating type when the total length of distribution lines is over 1,200 feet. Alternating siphons shall discharge to separate disposal areas.

6.4 *Construction.*—Dosing tank construction shall conform to the provisions of Section 5.4.

6.5 *Foundations.*—Dosing tank foundations shall conform to the provisions of Section 5.5.

6.6 *Materials.*—Materials used shall be in conformity with the provisions of Section 5.6.

6.7. *Ventilation.*—Dosing tanks shall be constructed in a manner that will permit venting the disposal area.

6.8. *Inlets and Outlets.*—Inlets shall be above high water elevation and outlets shall conform with the requirements of the manufacturer of the siphon.

6.9 *Access Openings.*—Each dosing tank or compartment thereof shall be provided with an access opening located so as to facilitate repair or adjustment of the siphon. Such opening shall conform to the provisions of Section 5.13 except that the opening or openings shall be over the siphon or siphons.

6.10 *Pump in Lieu of Dosing Tank.*—A wet well and a pump or ejector may be substituted for a dosing tank provided the other requirements of this section are complied with and the pump or ejector is designed to handle sewage.

SECTION 7

DISTRIBUTION BOX

7.1 *General.*—A distribution box shall be installed between septic tanks and disposal fields or seepage pits. If only one seepage pit is used, no distribution box is required.

7.2 *Connecting Pipe.*—The pipe connecting the septic tank and distribution box shall conform to the provisions of Section 4.

7.3 *Construction.*—Distribution boxes shall be water-tight and constructed of concrete or other durable material. They shall be designed to accommodate the necessary distribution lines leading therefrom and to provide equal distribution to such lines by means of baffles or other acceptable methods.

7.4 *Access.*—Distribution boxes shall be provided with a means of access. In the case of small boxes, this may be a removable top. If the top of the distribution box is more than 18 inches below finished grade, the access opening shall be extended to between 18 inches and 12 inches below finished grade.

7.5 *Distribution Lines.*—Each distribution line shall be connected separately to the distribution box. The inverts of all outlet lines shall be rigidly set at the same level. The invert of the inlet shall be at least one inch above the invert of the outlet.

SECTION 8

DISPOSAL AREAS

8.1 *General.*—The disposal area to be provided shall be determined by the results of percolation tests performed in accordance with the provisions of Section 9, type of soil available, drainage conditions or by other related data that may be required by the Administrative Authority.

8.2 *Type of Disposal Area Permitted.*—The disposal area shall consist of a disposal field constructed in accordance with Section 10 or seepage pit constructed in accordance with Section 13, or a combination thereof.

8.3 *Location.*—Disposal areas shall be located as designated in Section 3.

8.4 *Summer Use.*—The percolating area may be 75% of the areas required by Sections 11, 12, and 13, if the individual sewage disposal system is to be used only from May 15 to October 15 and the Administrative Authority so approves.

SECTION 9

DETERMINATION OF SOIL CHARACTERISTICS

9.1 *General.*—The quality of soil available as percolation media shall be determined from the results of tests as herein prescribed, type of underlying soil, drainage conditions or by other related data that may be required by the Administrative Authority.

9.2 *Percolation Tests and Reports.*

(a) At least one percolation test shall be performed at the site of each disposal area. More than one test will be required where the soil structure may vary or large disposal

reas are required. Preliminary tests for large tracts involving more than one disposal system ıay be made in the amount of one per acre or as prescribed by the Administrative Authority.

(b) Percolation tests shall be performed as prescribed in this Section by a licensed rofessional engineer, health officer, sanitarian or other person who may be approved by the ıdministrative Authority to perform such tests.

(c) Percolation tests shall not be made in test holes which have been allowed to emain open to the atmosphere for periods over three days or in frozen ground. Tests shall ıot be made in filled ground unless the soil has been compacted or allowed to settle to he satisfaction of the Administrative Authority. Where a fissured soil formation is en- :ountered, tests shall be made under the direction of the Administrative Authority.

(d) Percolation tests shall be performed in accordance with the following procedure:

Step 1. Prepare a test hole having horizontal dimensions of 8 inches to 12 inches :erminating in the soil at the depth intended to be used for disposal purposes. Establish a :ixed point at the top of the hole from which all measurements shall be taken. Fill the hole with water and allow all of this water to drain into the soil.

Step 2. Fill the hole to a depth of approximately seven inches. At a five to thirty minute time interval, depending on the rate of fall, record the drop in water level in inches during the time interval selected. Immediately refill the hole to the original depth of approximately seven inches, and repeat the test using the same time interval and method. Repeat this procedure until the distance that the water has fallen in the time interval selected becomes approximately equal.
Steps 3 and 4 shall follow immediately.

Step 3. Remove any silt accumulation or debris remaining in the hole.

Step 4. Refill the hole to a depth of seven inches as quickly as possible and record the time required for only six inches of the water to seep away. This time divided by six will be the percolation rate in minutes per inch.

The time required for the percolation test may be shortened by having the holes filled with water several times during the day previous to testing. The testing procedure may then start at Step 2, after any accumulated silt has been removed. If a reasonable number of tests as outlined in Step 2 do not indicate the soil to be sufficiently saturated, additional soaking of the soil may be necessary and Step 2 repeated. In any event, the percolation test shall be performed as outlined in Step 4.

(e) Reports shall be furnished to the Administrative Authority indicating the results of each percolation test in minutes per inch, the date of the test, effect of recent rain or lack of rain, the apparent moisture of the soil prior to the test, the depth to ground water when encountered, number of preliminary tests made to determine apparent saturation, the type or types of soil encountered, together with the thickness of each layer and all other factors affecting percolation test results.

9.3 *Sub-soil and Ground Water Determination.*

(a) The Administrative Authority may require additional information relative to soil structure and ground water elevations adjacent to or below the proposed disposal area.

(b) The number of test borings or pits shall be as specified by the Administrative Authority but not numbering less than one test boring or pit for each individual sewage disposal system proposed except for preliminary consideration of tracts wherein a number of such disposal systems are proposed, in which case at least one test shall be made for each five acres or fraction thereof.

(c) The depth of test borings or pits shall be 10 feet below the bottom of the proposed seepage pit or 15 feet below the bottom of the proposed disposal field or to solid rock when encountered within the foregoing depth requirements.

(d) Reports of the type, nature and depth of the soils found and the depth to ground water shall be furnished to the Administrative Authority. Samples of soil removed shall be carefully preserved when required by the Administrative Authority.

SECTION 10

MINIMUM CONSTRUCTION REQUIREMENTS FOR DISPOSAL FIELDS

10.1 *Disposal Fields.*—Disposal fields may consist of disposal trenches as described in Section 11, or a disposal bed as described in Section 12.

10.2 *Standard for Disposal Field Construction.*—Disposal trenches shall be constructed in accordance with Section 11 and disposal beds in accordance with Section 12.

10.3 *Filter Material.*—Filter material shall cover the distribution lines and extend the full width of the trench or bed, shall not be less than six inches deep beneath the bottom of the distribution line, and shall extend at least two inches above the top of the line and as further required in Section 11.4. The filter material shall be washed gravel, crushed stone, slag, or clean bank-run gravel ranging in size from 1/2 to 2 1/2 inches, free of fines, dust, ashes or clay. The filter material shall be covered by untreated paper or by a 2-inch layer of salt hay or straw as the laying of the distribution lines progress. Use of waterproof paper for this purpose is prohibited.

10.4 *Distribution Lines.*—Distribution lines shall be constructed true to line and grade with open joints or perforations, except that at least one tight joint at each bend or other fitting shall be provided to prevent slippage. Bell-and-spigot pipe shall be laid with 1/2 inch open joints at two foot intervals and the bottom of each joint shall contain a minimum of cement mortar to maintain an even flow line. Agricultural tile shall be laid on grade boards securely nailed to stakes driven into the undisturbed earth forming the trench bottom. Openings between joints shall be 1/8 inch to 1/2 inch with the upper half of the joint covered with asphalt-treated paper not less than three inches wide. Perforated tile, bituminized-fibre or asbestos cement or equally adequate pipe may be used provided a sufficient number of clear openings extending through the entire thickness of the pipe are available to permit complete distribution of sewage into the disposal area. Any section of pipe laid with tight joints, except fittings as required above, shall not be considered in determining the percolating area.

10.5 *Depth.*—Distribution lines shall not be laid at depths of greater than 24 inches below finished grade unless authorized by the Administrative Authority. Where more suitable soil is located at 2 to 5 feet below the ground surface the bottom of the trench may be deepened at 6 to 10 foot intervals into the aforesaid soil provided said excavations are filled with filter material as provided in Section 10.3. The top of distribution lines shall not be less than 9 inches below finished ground surface.

10.6 *Excavation.*—Excavation for disposal beds or trenches may be made by machinery provided that the adjacent soil will not be compacted and the provisions of Section 2.8 are met. No excavating machinery shall be permitted in the excavation. When an excavation is carried below the required depth, it shall be brought up to the proper elevation with filter material as specified in Section 10.3.

10.7 *Water Table.*—Disposal fields shall not be constructed in areas, where the ground water may be less than four feet below the bottom of the trench or bed unless experience has

indicated that disposal fields being of similar nature and size and having equal volumes of sewage have functioned satisfactorily for a reasonable period of time.

10.8 *Fill.*—When disposal fields are built up by fill to a depth of two feet or more, the area of such fill shall extend at least twenty feet beyond the limits of the disposal field and the fill shall be of earth having a percolation value at least equal to that of the ground in which the disposal field is constructed.

10.9 *Impervious Formations.*—Disposal fields shall not be constructed over impervious ground formations where such formations are less than ten feet below the finished ground surface unless experience has indicated that disposal fields in the immediate area, being of similar nature and size and handling equal volumes of sewage, have functioned satisfactorily for a reasonable period of time.

10.10 *Sloping Ground.*—When distribution lines must be laid at different elevations in order to meet the slope requirements of Section 11.5, the change in elevations shall be accomplished by use of distribution boxes as required by Section 7 or by a vertical pipe and fittings of the same size as the distribution piping, provided the upper fitting is a "T" branch, with a plugged top terminating six to twelve inches below finished ground surface and the lower fitting is a 90° bend. Tight joints shall be used in all such fittings.

10.11 *Backfill.*—Backfill over disposal trenches or beds shall not be tamped and no grading machinery shall be permitted to pass over the area. The surface may be rolled by a hand type roller for the purpose of completing a lawn.

SECTION 11

DISPOSAL TRENCHES

11.1 *Percolating Area.*—The percolating area of disposal trenches shall be considered as the total bottom area of the disposal trench system in square feet, except that any section of trench containing pipe laid with tight joints other than fittings as required in Section 10.4 shall not be considered in determining the percolating area.

11.2 *Minimum Percolating Area (Individual Dwellings).*—The minimum required percolating area per bedroom shall be determined from the following table provided that in no event shall the total bottom trench area be less than 150 square feet for each dwelling unit.

Percolation Test Min. Per Inch	Minimum Bottom Trench Area Square Feet Per Bedroom	Percolation Test Min. Per Inch	Minimum Bottom Trench Area Square Feet Per Bedroom
2 min. or less	55	14	115
3	60	15	120
4	65	16	125
5	70	17	130
6	75	18	135
7	80	19	140
8	85	20	145
9	90	21 to 25	170
10	95	26 to 30	190
11	100	31 to 35	215
12	105	36 to 40	240
13	110	over 40	Not acceptable

11.3 *Minimum Percolating Area (Other Than Individual Dwellings).*—The percolating area shall be the same as that considered in Section 11.1. The minimum required percolating area shall be determined from the following table with the estimated daily sewage flow

letermined from Section 2.2, provided that in no event shall the total bottom trench area ›e less than 150 square feet.

Percolation Test Min. Per Inch	Minimum Bottom Trench Area Sq. Ft. Per Gal. Per Day	Percolation Test Min. Per Inch	Minimum Bottom Trench Area Sq. ft. Per Gal. Per Day
2 min. or less	0.39	14	0.77
3	0.43	15	0.80
4	0.46	16	0.83
5	0.49	17	0.87
6	0.52	18	0.90
7	0.55	19	0.93
8	0.58	20	0.96
9	0.61	21 to 25	1.12
0	0.64	26 to 30	1.28
1	0.67	31 to 35	1.44
2	0.71	36 to 40	1.60
3	0.74	over 40	Not acceptable

11.4 *Size and Spacing.*--Size and minimum spacing requirements of disposal trenches ;hall conform to the following table:

ıe Required for Water to Fall ; Inch (Minutes)	Maximum Width of Trench at Bottom (Inches)	Depth of Stone Under Distrib. Lines (Inches)	Min. Dist. Bet. Distrib. Lines (feet)	Rec. Dep. of Trench to Bottom (inches)	Percolating Area Per Ft. of Trench (sq. ft.)
Less than 5 min.	18	6	6.0	20 to 30	1.5
5 to 20 min.	24	8	6.0	22 to 32	2.0
20 to 40 min.	30	10	7.5	24 to 34	2.5

11.5 *Disposal Trench Construction.*—Disposal trenches shall be constructed in accordance with the following table:

Minimum lines per field	2
Maximum length per line	100 ft.
Minimum diameter of distribution lines	4 inches
Preferred slope of distribution lines	2″ to 4″ in 100 ft.
Maximum slope distribution lines	6″ in 100 ft.
Minimum width of trench bottom	18 inches
Minimum distance between distribution lines	6 ft.
Minimum percolating area per dwelling	150 sq. ft.

SECTION 12

DISPOSAL BEDS

12.1 *General.*—Disposal beds shall consist of an area in which the entire earth contents have been removed, filter material as required in Section 10.3 placed in the excavation, and distribution lines installed at a depth not greater than 24 inches below finished grade.

12.2 *Percolating Area.*—The percolating area of disposal beds shall be considered as the total bottom area in square feet.

12.3 *Minimum Percolating Area (Individual Dwellings).*—The minimum required percolating area per bedroom shall be determined from the following table provided that in no event shall the total bottom area be less than 180 square feet for each dwelling unit.

Percolation Test Min. Per Inch	Minimum Bottom Area Sq. Ft. Per Bedroom	Percolation Test Min. Per Inch	Minimum Bottom Area Sq. Ft. Per Bedroom
2 min. or less	70	14	139
3	77	15	144
4	82	16	150
5	88	17	156
6	94	18	162
7	99	19	167
8	106	20	173
9	110	21 to 25	202
10	115	26 to 30	231
11	121	31 to 35	259
12	127	36 to 40	288
13	133	over 40	Not acceptable

12.4 *Minimum Percolating Area (Other Than Individual Dwellings).*—The minimum required percolating area shall be determined from the following table with the estimated daily sewage flow determined from Section 2.2, provided that in no event shall the total bottom area be less than 180 square feet.

Percolation Test Min. Per Inch	Minimum Bottom Area Sq. Ft. Per Gal. Per Day	Percolation Test Min. Per Inch	Minimum Bottom Area Sq. Ft. Per Gal. Per Day
2 min. or less	0.47	14	0.92
3	0.51	15	0.96
4	0.55	16	1.00
5	0.58	17	1.04
6	0.62	18	1.08
7	0.66	19	1.12
8	0.70	20	1.15
9	0.74	21 to 25	1.34
10	0.77	26 to 30	1.54
11	0.81	31 to 35	1.73
12	0.85	36 to 40	1.92
13	0.89	over 40	Not acceptable

12.5 *Depth of Filtering Material.*—A minimum of 12 inches of filtering material shall be provided under the distribution lines.

12.6 *Disposal Bed Construction.*—Disposal beds shall be constructed in accordance with the following table:

Minimum lines per field	2
Maximum length per line	100 ft.
Minimum diameter of distribution lines	4 inches
Preferred slope of distribution lines	2″ to 4″ in 100 ft.
Maximum slope of distribution lines	6″ in 100 ft.
Minimum distance from edge of bed to nearest distribution line	3 ft.
Minimum distance between distribution lines	4 ft.
Minimum percolating area per dwelling	180 sq. ft.

SECTION 13

SEEPAGE PITS

13.1 *General.*—Seepage pits shall be used only when preceded by a septic tank except s otherwise provided in Section 2.4. They may be permitted in lieu of or as a supplement ɔ a disposal field where conditions warrant their use. Because of the health hazard in-'olved in the possible pollution of underground water supplies seepage pits shall not be onstructed unless extreme care is exercised in the selection of location and depth.

13.2 *Percolating Area.*—The percolating area shall be considered as the pervious bottom ınd side areas of the excavation below the elevation of the inlet. The probable efficiency ıf the pit shall be judged on the basis of percolation tests performed at depths required by ection 9.

13.3 *Minimum Percolating Area (Individual Dwellings).*—The minimum required per-olating area shall be determined from the following table provided that in no event shall he area be less than 110 square feet for each dwelling unit.

Percolation Test Min. Per Inch	Minimum Area Square Feet Per Bedroom	Percolation Test Min. Per Inch	Minimum Area Square Feet Per Bedroom
2 min. or less	44	14	87
3	48	15	90
4	51	16	94
5	55	17	98
6	58	18	101
7	62	19	104
8	66	20	108
9	69	21 to 25	126
10	72	26 to 30	144
11	75	31 to 35	162
12	79	36 to 40	180
13	83	over 40	Not acceptable

13.4 *Minimum Percolating Area (Other Than Individual Dwelling).*—The minimum required percolating area shall be determined from the following table with the estimated daily sewage flow determined from Section 2.2, provided that in no event shall the area be less than 110 square feet.

Percolation Test Min. Per Inch	Minimum Area Sq. Ft. Per Gal. Per Day	Percolation Test Min. Per Inch	Minimum Area Sq. Ft. Per Gal. Per Day
2 min. or less	0.29	14	0.58
3	0.32	15	0.60
4	0.35	16	0.62
5	0.37	17	0.65
6	0.39	18	0.68
7	0.41	19	0.70
8	0.44	20	0.72
9	0.46	21 to 25	0.84
10	0.48	26 to 30	0.96
11	0.50	31 to 35	1.08
12	0.53	36 to 40	1.20
13	0.56	over 40	Not acceptable

13.5 *Construction.*—Seepage pits shall be constructed within an excavation affording adequate working space and shall be constructed of stone, brick, cinder or concrete block, or similar material laid dry with open joints where the permeable strata has been penetrated, except that if the seepage pit is not of circular construction or if the surrounding ground is subject to cave-in, all horizontal joints shall be mortared in such a manner as to prevent structural failure. All joints in impervious strata, and in all cases above the inlet shall be made water-tight.

13.6 *Backfill.*—The space between the excavation and seepage pit wall shall be backfilled with at least 3 inches of coarse gravel or filter material prescribed in Section 10.3. Where cinder or concrete blocks are laid with core openings exposed, the space between the excavation and seepage pit wall shall be backfilled with at least 6 inches of 2 1/2 inch crushed stone or similar material.

Backfill above the permeable strata and inlet shall be thoroughly compacted by hand or mechanical tamping methods. The use of heavy machinery or water for this purpose is prohibited.

13.7 *Covers.*—If the upper layers of masonry are not drawn in to provide a smaller diameter opening than the diameter of the pit, a reinforced concrete cover shall be provided. Access openings as specified in Section 5.13 shall be provided.

13.8 *Bottom.*—The bottom of the pit shall be filled with coarse gravel to a depth of one foot unless the bottom is in a gravel or sand formation. The bottom shall not be less than two feet above the maximum ground water elevation unless special permission is granted by the Administrative Authority.

13.9 *Impervious Formations.*—The bottom of any seepage pit shall be at least eight feet above any impervious formation unless experience has indicated that seepage pits in the immediate area being of similar nature and size and handling equal volumes of sewage have functioned satisfactorily for a reasonable period of time.

SECTION 14
DRY WELLS

14.1 *Dry Well Permitted.*—A dry well may be utilized to receive the drainage from roofs, basements, or areaways, provided its installation will not interfere with the operation of the individual sewage disposal system.

14.2 *Location.*—Dry wells shall be located as required in Section 3.2.

SECTION 15
CESSPOOLS

15.1 *Use.*—The installation and use of cesspools for disposal of sewage is permissable only if a health hazard will not result therefrom. Special approval to make such an installation shall be obtained from the Administrative Authority.

15.2 *Construction.*—The construction of cesspools shall comply with the applicable provisions of Section 13.

15.3 *Location.*—Cesspools shall be located in accordance with the requirements established in Section 3.2.

15.4 *Minimum Capacity.*—The liquid capacity of cesspools shall be double the capacity required for septic tanks in Section 5.

15.5 *Percolating Area Required.*—In determining the percolating area, only the side wall area of that part of the excavation in pervious formation up to the elevation of the inlet shall be used. The effectiveness of the unit shall be determined by the required percolating a

in Sections 13.3 and 13.4. In no case shall the capacity of the unit be less than required in Section 15.4.

SECTION 16

EMPTYING AND CLEANING SEPTIC TANKS, CESSPOOLS, PRIVIES OR OTHER PLACES USED FOR THE RECEPTION OR STORAGE OF HUMAN EXCREMENT

16.1 *General.*—Only equipment inspected and approved by the Administrative Authority shall be used in cleaning septic tanks, or other places used for the reception or storage of human excrement.

16.2 *Mobile Tanks.*—Mobile tanks shall be securely mounted on trucks, shall be watertight and provided with a leakproof cover.

16.3 *Venting of Mobile Tanks.*—Mobile tanks shall be provided with a vent constructed in a manner that will permit the escape of gas but not the liquid contained therein.

16.4 *Pumps.*—Pumps shall be maintained in a condition that will prevent leakage of sewage.

16.5 *Hose.*—Only suction or pressure hose in good repair shall be used.

16.6 *Operation.*—The operation of cleaning or emptying septic tanks or other places used for the reception or storage of human excrement shall be so conducted that no liquid or excremental material will be deposited on the ground adjacent to the structure being cleaned. If any spillage occurs, the solid portion shall be immediately removed and disposed of in a sanitary manner and the area covered with earth or a chlorine-bearing compound.

16.7 *Disposal.*—The contents of septic tanks, cesspools, privies or other places used for the reception or storage of human excrement shall be removed to a place and in a manner approved by the Administrative Authority. If a sanitary sewer is available, it shall be used in preference to all other means of disposal and in a way and manner acceptable to the authority having jurisdiction. The contents of septic tanks, cesspools or privies should be discharged into a trunk sewer. In no case shall the contents be discharged into the upper end of a lateral sewer nor into any sewer above a pumping station.

16.8 *License Required.*—Persons shall not engage in the business of cleaning septic tanks, cesspools, privies or other places used for the reception or storage of human excrement who do not hold a license to engage in such business, issued by the Administrative Authority.

SECTION 17

ADMINISTRATION

17.1 *Permits.*—Individual sewage disposal systems shall not be located, constructed or altered until the Administrative Authority or its authorized agent has issued a license or permit for such location, construction or alteration. Licenses or permits shall not issue until:

(a) Application.—A properly executed application has been submitted on a form supplied by the Administrative Authority. Such application shall include a sketch showing the property to be served, the location of sewage disposal facilities proposed, the number of bedrooms, including any expansion attic, for single family dwellings or the estimated daily sewage flow as determined under the provisions of this Code for establishments other than single family dwellings, the location of any source of water supply on the same or adjacent

premises and other data as required by the provisions of this Code, the Administrative Authority, or its authorized agent.

(b) Percolation Tests.—The results of one or more percolation tests have been submitted to, and found to be satisfactory by the Administrative Authority or its authorized agent. Such tests shall be conducted in accordance with the provisions of this Code and in a manner satisfactory to the Administrative Authority.

(c) Site Inspection.—The Administrative Authority or its authorized agent has determined that the disposal area will not be subject to surface or subsurface flooding; all surface and subsurface water will be drained away from such area and that all grading of the premises, except that requiring the use of hand tools, has been completed.

(d) Examination of Application.—The Administrative Authority or its authorized agent has determined that the design of the individual sewage disposal system or systems as proposed is in compliance with the Code.

17.2 *Existing Individual Sewage Disposal Systems.*—The provisions of this Code shall not be applied to individual sewage disposal systems in existence at the time of its adoption. However, any replacement, repair, extension or alteration of any portion of any unit or units of such system shall be made in accordance with the provisions of this Code.

17.3 *Revised Plans.*—Revision of plans of proposed individual sewage disposal systems shall be approved only with the written consent of the Administrative Authority, or its authorized agent. The Administrative Authority, or its authorized agent may require such revision of plans as it deems necessary if conditions found prior to or during construction warrant such change in order to obtain compliance with the provisions of this Code.

17.4 *Construction Inspections.*—The Administrative Authority or its authorized agent shall make sufficient inspections during the course of construction of any individual sewage disposal system to determine if the soil beneath the septic tank, distribution box or seepage pit is adequate to support such structure; if excavation for the disposal area or seepage pits discloses a type of soil that will confirm the results of percolation tests and that the system has been constructed in accordance with the provisions of this Code. The Administrative Authority or its authorized agent may require additional percolation tests in the actual disposal area or at the stratum to be used for sewage disposal.

17.5 *Backfilling.*—Individual sewage disposal systems or parts thereof shall not be covered until inspected by the Administrative Authority or its authorized agent and permission granted for such backfill. Any part of the disposal system which has been covered without such permission shall be uncovered upon the order of the Administrative Authority or its authorized agent.

17.6 *Certificate of Compliance.*—Individual sewage disposal systems shall not be placed in service until a certificate has been issued by the Administrative Authority or its authorized agent indicating that the said disposal system has been located, constructed or altered in compliance with the Code. The building inspector or similar official of the municipality who is responsible for the issuance of occupancy permits shall be furnished a copy of this certificate.

The issuance of a certificate of compliance shall only constitute certification that the individual sewage disposal system has been constructed in compliance with this Code. It shall not be construed as a guarantee that the system will function satisfactorily, nor shall it in any way restrict the powers or responsibilities of the Administrative Authority in the enforcement of any law or ordinance relating to public health.

APPENDIX

SUGGESTED FORM

No. .....

BOARD OF HEALTH .....
APPLICATION FOR PERMIT TO LOCATE AND CONSTRUCT AN INDIVIDUAL SEWAGE DISPOSAL SYSTEM

Date .....

Location – Address ..... or Block No. ..... Lot No.....
No. Street

Owner (print) .....

Present Address .....

Name and Address of Contractor (print) .....

.....

Type of Building to be Served ..... Use: Yearly .... Summer ....

Dwelling unit – No. of Bedrooms ..... Expansion Attic – Yes ..... No .....

Other – Type of Building ..... Gals. per person .....

Type of Facilities ..... Persons .....

Size of Lot ..... Area sq. ft. .....

Septic Tank – Liquid Capacity ..... Shape ..... Material .....

Width ..... Length ..... Diameter .....

Liquid depth ..... Distance from liquid level to underside of top .....

Liquid Disposal – Disposal Trenches ..... Disposal Bed ..... Seepage Pits .....

Disposal Trenches – Width ..... Depth ..... Lin. feet of pipe .....

Distance between lines ..... Type of Pipe .....

Disposal Bed – Width ..... Length ..... Area sq. ft. .....

Lin. ft. of pipe ..... Type of Pipe .....

Distance between lines .....

Seepage Pits – Number ..... Diameter .....

Depth below inlet ..... Distance between pits .....

Shape of Pits ..... Construction material .....

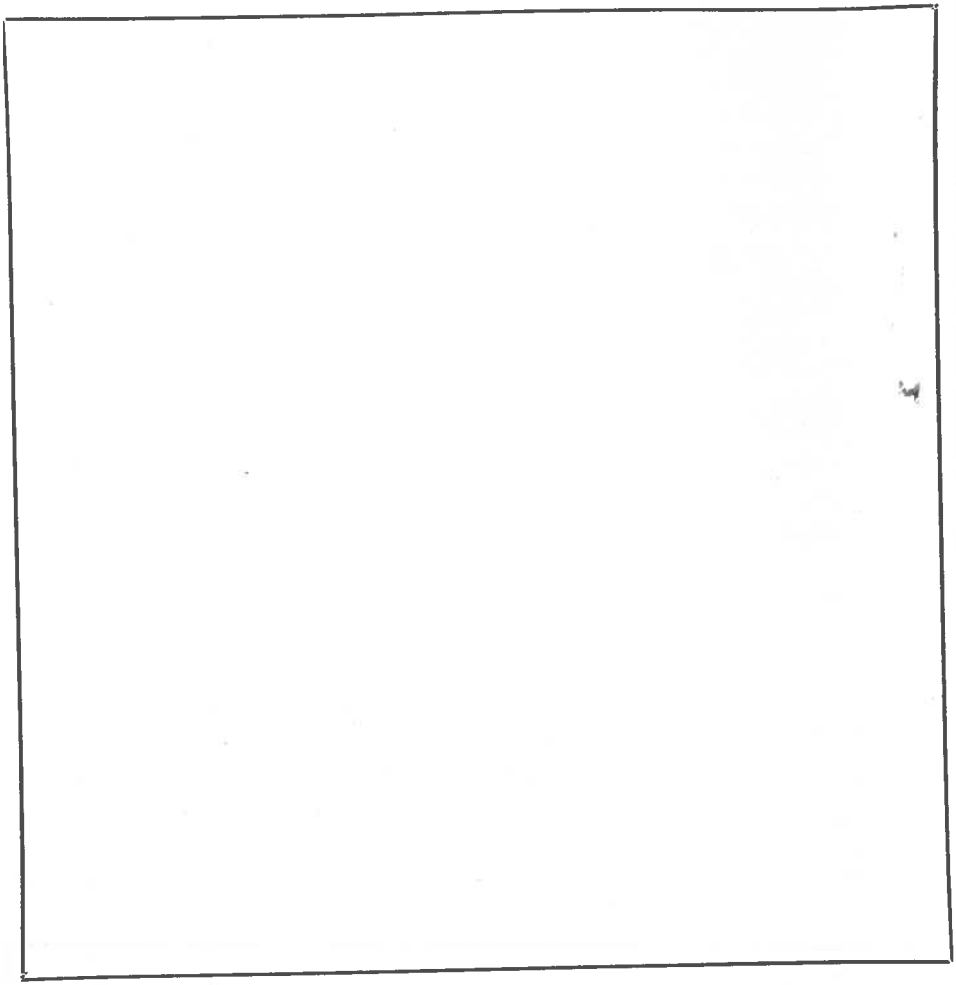
Depth of permeable material to be penetrated .....

Percolation Test Results Performed by..... Date.....

Hole No.	Time in Min. per In.	Number of Tests to Determine Saturation	Depth	Type of Soil Encountered, Depth of Each Type

(over)

SKETCH OF PROPOSED INSTALLATION



Make an accurate sketch showing the following – lot dimensions, location of house, location of each unit of disposal system, all buildings and large trees in disposal area. Include distances from house, side and rear lot lines, auxiliary buildings, large trees and sewerage units.

The undersigned agrees to construct the aforedescribed individual sewage disposal system in accordance with the provisions of an ordinance entitled: "AN ORDINANCE establishing a code to regulate and control the location, construction, use, maintenance, and method of emptying or cleaning individual sewage disposal systems, or other places used for the reception or storage of human excrement, the issuance of (licenses) (permits) and providing penalties for the violation thereof.", adopted by the Board of Health of ..... (date).

Owner: .....

Contractor: .....

SUGGESTED FORM

No. .....

BOARD OF HEALTH .....
APPLICATION FOR PERMIT TO ALTER AN INDIVIDUAL SEWAGE DISPOSAL SYSTEM

Date .....

Location — Address ..... or Block No. ..... Lot No.....
No. Street

Owner (print) .....

Present Address .....

Name and Address of Contractor (print) .....

.....

Type of Building to be Served ..... Use: Yearly .... Summer ....

Dwelling unit — No. of Bedrooms ..... Expansion Attic — Yes ..... No .....

Other — Type of Building ..... Gals. per person .....

Type of Facilities ..... Persons .....

Size of Lot ..... Area sq. ft. .....

Nature of Alteration (Check and supply information requested. When only septic tanks are to be replaced or altered, percolation tests will not be required.)

Septic Tank — Liquid Capacity ..... Shape ..... Material .....

Width ..... Length ..... Diameter .....

Liquid depth ..... Distance from liquid level to underside of top .....

Disposal Trenches — Width ..... Depth ..... Lin. feet of pipe .....

Distance between lines ..... Type of pipe .....

Disposal Bed — Width ..... Length ..... Area sq. ft. .....

Lin. ft. of pipe ..... Type of pipe .....

Distance between lines .....

Seepage Pits — Number ..... Diameter .....

Depth below inlet ..... Distance between pits .....

Shape of Pits ..... Construction material .....

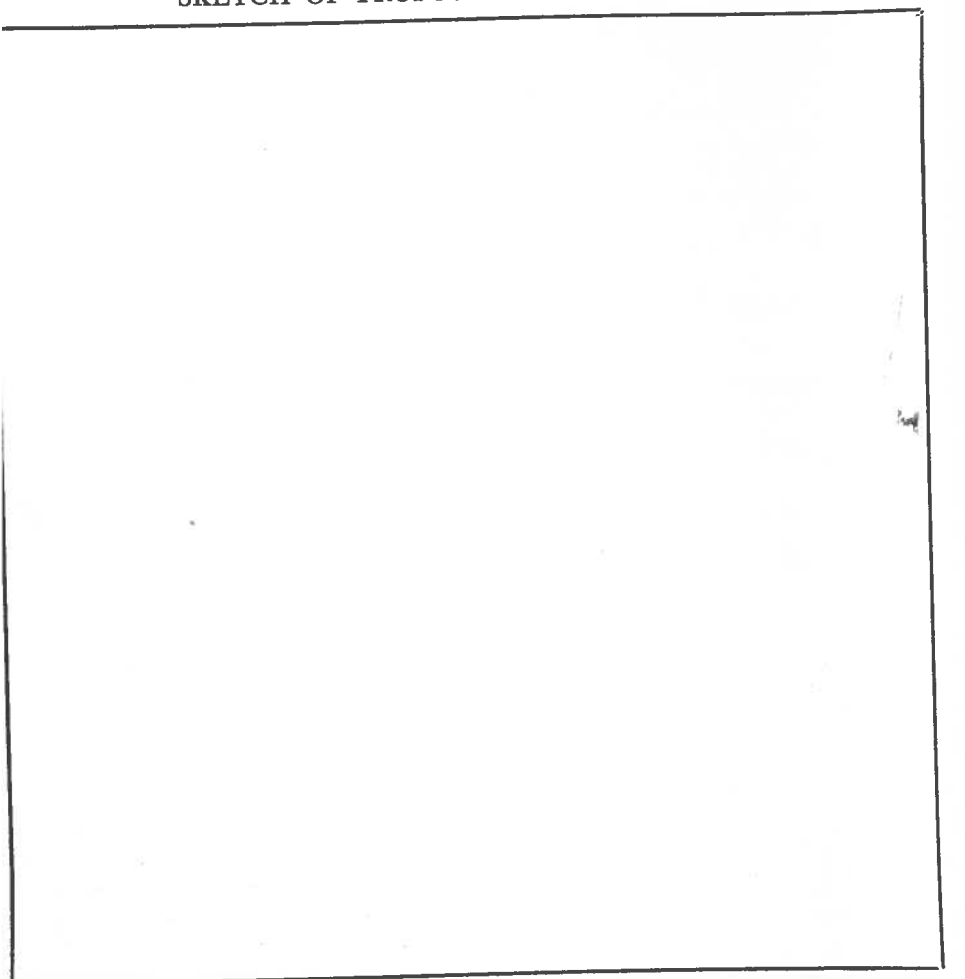
Depth of permeable material to be penetrated .....

Percolation Test Results Performed by..... Date.....

Hole No.	Time in Min. per In.	Number of Tests to Determine Saturation	Depth	Type of Soil Encountered, Depth of Each Type

(over)

SKETCH OF PROPOSED INSTALLATION



Make an accurate sketch showing the following – lot dimensions, location of house, location of each unit of disposal system, all buildings and large trees in disposal area. Include distances from house, side and rear lot lines, auxiliary buildings, large trees and sewerage units.

The undersigned agrees to construct the aforedescribed individual sewage disposal system in accordance with the provisions of an ordinance entitled: "AN ORDINANCE establishing a code to regulate and control the location, construction, use, maintenance, and method of emptying or cleaning individual sewage disposal systems, or other places used for the reception or storage of human excrement, the issuance of (licenses) (permits) and providing penalties for the violation thereof.", adopted by the Board of Health of ..... (date).

Owner: .....

Contractor: .....

SUGGESTED FORM

No. .....

BOARD OF HEALTH OF .....
PERMIT TO LOCATE AND CONSTRUCT OR ALTER AN INDIVIDUAL SEWAGE DISPOSAL SYSTEM

PERMISSION IS HEREBY GRANTED .....
Name of Owner or Contractor

.....
Address

to ☐ locate and construct ☐ alter an individual sewage disposal system

at Block No. ..... Lot No. ..... Street ..... as shown on

Application for Permit to Locate and Construct an Individual Sewage Disposal System.

Number .....

Application for Permit to Alter an Individual Sewage Disposal System.

dated ....., in accordance with the provisions of an ordinance entitled: "AN ORDINANCE establishing a code to regulate and control the location, construction, use, maintenance, and method of emptying or cleaning individual sewage disposal systems, or other places used for the reception or storage of human excrement, the issuance of (licenses) (permits) and providing penalties for the violation thereof.", or as may be directed by the Board of Health.

Board of Health of .....

....
Date Administrative Officer

SUGGESTED FORM

No. .....

BOARD OF HEALTH OF .....
CERTIFICATE OF COMPLIANCE

ED TO .....
Name of Owner or Contractor

.....
Address

IS TO CERTIFY, That the individual sewage disposal system installed by

..... At Block No. ..... Lot No. ..... or
Installer

..... In the *(municipality)* has been constructed in
No. Street

with the provisions of an ordinance entitled: "AN ORDINANCE establishing egulate and control the location, construction, use, maintenance, and method of cleaning individual sewage disposal systems, or other places used for the reception of human excrement, the issuance of (licenses) (permits) and providing the violation thereof.", adopted by the Board of Health of .....(date) ibed in the Application for Permit to Locate and Construct an Individual Sewage tem. No. ..... dated ..... or as the Board of Health ..... has directed.

The issuance of this certificate shall not be construed as a guarantee that the system will function satisfactorily nor shall it in any way restrict the powers or responsibilities of the Board of Health in the enforcement of any law or ordinance relating to public health.

Board of Health of .....

.....

.....
Administrative Officer